

Interactive comment on “Large clean mesocosms and simulated dust deposition: a new methodology to investigate responses of marine oligotrophic ecosystems to atmospheric inputs” by C. Guieu et al.

Anonymous Referee #1

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This manuscript is a methodology, not a description of results. It describes a methodology to do mesocosms with the objective of studying responses of the photic zone pelagic community to Saharan dust events in the Mediterranean.

The ms contains two main methodology developments:

1. How to collect and "age" the Saharan dust in order to simulate what is eventually deposited on the sea surface.
2. Modifications of the mesocosm design.

I found part 1 the most interesting and, for a non-expert in atmospheric chemistry it also

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works as a mini-review of the processes altering the dust during aeolian transportation. Part 2 is more in my opinion more along the line "one more mesocosm construction". The solution chosen is probably fine, although I would have been worried for leakages in the junction between the upper and lower part of the bags. Once things are done as complicated this, including the use of divers during deployment, there are other ways to conserve the vertical structure of the water column.

Describing the two parts together is, however, valuable since the readership is likely to come from different fields with different expertise, while these experiments need this type of combined knowledge.

The decision of whether to publish this ms in Biogeosciences or not, is in my opinion mainly a question of editorial policy. I suppose the authors' strategy is to publish this ms describing the experimental design and methodology, so that this can be referred to when, at a later stage publishing the actual results. I find this perfectly logical, but there are usually not many places to publish such methodology descriptions. My opinion is that it would be interesting to the readership of Biogeosciences.

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